

SEQUENCE LISTING

SEQ ID NO: 1 (human CatSper2 cDNA sequence - variant A2)

ATGGCCGCTT	ACCAACAAGA	AGAGCAGATG	CAGCTTCCCC	GAGCTGATGC	0050
CATTCGTTCA	CGTCTCATCG	ATACTTTCTC	TCTCATTGAG	CATTTGCAAG	0100
GCTTGAGCCA	AGCTGTGCCG	CGGCACACTA	TCAGGGAGTT	ACTTGATCCT	0150
TCCCGCCAGA	AGAAAACCTGT	ATTGGGAGAT	CAACACCAGC	TAGTGCCTT	0200
CTCTATAAAG	CCTCAGCGTA	TAGAACAGAT	TTCACATGCC	CAGAGGCTGT	0250
TGAGCAGGCT	TCATGTGCGC	TGCAGTCAGA	GGCCACCTCT	TTCTTTGTGG	0300
GCCGGATGGG	TCCTTGAGTG	TCCTCTCTTC	AAAAACCTCA	TCATCTTCCT	0350
GGTCTTTTG	AATACGATCA	TATTGATGGT	TGAAATAGAA	TTGCTGGAAT	0400
CCACAAATAC	CAAACATATGG	CCATTGAAGC	TGACCTTGGG	GGTGGCAGCT	0450
TGGTTTATCT	TGCTTATTTT	CATCCTGGAG	ATCCTTCTTA	AGTGGCTATC	0500
CAACTTTCT	GTTTTCTGGG	AGAGTGCCTG	GAATGTCTT	GACTTTGTTG	0550
TTACCATGTT	GTCCCTGCTT	CCCGAGGTTG	TGGTATTGGT	AGGGGTAAC	0600
GGCCAATCGG	TGTGGCTTCA	GCTTCTGAGG	ATCTGCCGGG	TGCTGAGGTC	0650
TCTCAAACTC	CTTGCACAAT	TCCGTCAAAT	TCAAATTATT	ATTTGGTCC	0700
TGGTCAGGGC	CCTCAAGAGC	ATGACCTTCC	TCTTGATGTT	GCTGCTCATC	0750
TTCTTCTACA	TTTTTGTGTT	GACTGGTGTG	TACGTCTTCT	CAGAGTACAC	0800
CCGTCACCT	CGTCAGGACC	TGGAGTACCA	TGTGTTCTTC	TCGGACCTCC	0850
CGAATTCCCT	GGTAAACAGT	TTCATTCTCT	TCACCTTGGG	TCATTGGTAT	0900
GCACTGCTTC	AGGACGTCTG	GAAGGTGCCT	GAAGTCAGTC	GCATCTTCAG	0950
CAGCATCTAT	TTCATCCTT	GGTTGTTGCT	TGGCTCCATT	ATCTTTCGAA	1000
GTATCATAGT	AGCCATGATG	GTTACTAACT	TTCAGAAATAT	CAGGAAAGAG	1050
CTGAATGAGG	AGATGGCGCG	TCGGGAGGTT	CAGCTCAAAG	CTGACATGTT	1100
CAAGCGGCAG	ATCATCCAGA	GGAGAAAAAA	CATGTCACAT	GAAGCACTGA	1150
CGTCAAGCCA	TAGCAAATA	GAGGACAGAG	GAGCTAGTCA	ACAAAGGGAA	1200
AGTTTGGACT	TATCAGAACT	GTCTGAAGTA	GAGTCTAATT	ATGGTGCCAC	1250
TGAAGAGGAT	TTAATAACAT	CTGCATCAA	AACAGAAAGAG	ACCTTGTCAA	1300
AAAAGAGAGA	GTACCAGTCT	TCCTCCTGTG	TCTCCTCCAC	ATCCTCTTCC	1350
TATTCTCCT	CTTCTGAATC	CAGATTTCT	GAATCTATTG	GTCGTTGGG	1400
CTGGGAGACT	CTTGTGCACG	AAAATCTGCC	CGGGCTAATG	GAAATGGATC	1450
AGGATGACCG	TGTTTGGCCC	AGAGACTCAC	TCTTCCGATA	TTTGAGTTG	1500
CTAGAAAAGC	TTCAGTATAA	CCTAGAGGAA	CGTAAGAAGT	TACAAGAGTT	1550
TGCAGTGCAG	GCACTGATGA	ACTTGGAAAGA	CAAGTAA		1587

SEQ ID NO: 2 (human CatSper2 protein sequence - variant A2)

MAAYQQEEQM	QLPRADAIRS	RLIDTFSLIE	HLQQLSQAVP	RHTIRELLDP	0050
SRQKKLVLGD	QHQLVRFSIK	PQRIEQISHA	QRLLSRLHVR	CSQRPPPLSLW	0100
AGWVLECPFL	KNFIIFLVFL	NTIILMVEIE	LLESTNTKLN	PLKLTLLEVAA	0150
WFILLIFILE	ILWKWLNSNF	VFWKSAWNVF	DFVVTMMSLL	PEVVVLVGVT	0200
GQSVWLQLLR	ICRVLRLSLLK	LAQFRQIQII	ILVLVRALKS	MTFLILMLLLI	0250
FFYIFIAVTGV	YVFSEYTRSP	RQDLEYHVFF	SDLPNSLVTV	FILFTLHDHY	0300
ALLQDVWKVP	EVSRIFSIY	FILWELLGSI	IFRSIIIVAMM	VTNFQNIRKE	0350
LNEEMARREV	QLKADMFKRQ	IIQRRKNMSH	EALTSSHSKI	EDRGASQORE	0400
SLDLSEVSEV	ESNYGATEED	LITSASKTEE	TLSKREYQS	SSCVSSTSSS	0450
YSSSESRFS	ESIGRLDWET	LVHENLPGLM	EMDQDDRVWP	RDSLFRYFEL	0500
LEKLOYNLEE	RKKLQEFAVQ	ALMNLEDK			0528

SEQ ID NO: 3 (human CatSper2 cDNA sequence - variant C1)

ATGGCCGCTT	ACCAACAAGA	AGAGCAGATG	CAGCTTCCCC	GAGCTGATGC	0050
CATTCGTTCA	CGTCTCATCG	ATACTTTCTC	TCTCATTGAG	CATTTGCAAG	0100
GCTTGAGCCA	AGCTGTGCCG	CGGCACACTA	TCAGGGAGTT	ACTTGATCCT	0150
TCCCGCCAGA	AGAAAACCTGT	ATTGGGAGAT	CAACACCAGC	TAGTGCCTT	0200
CTCTATAAAG	CCTCAGCGTA	TAGAACAGAT	TTCACATGCC	CAGAGGCTGT	0250
TGAGCAGGCT	TCATGTGCGC	TGCAGTCAGA	GGCCACCTCT	TTCTTTGTGG	0300
GCCGGATGGG	TCCTTGAGTG	TCCTCTCTTC	AAAAACCTCA	TCATCTTCCT	0350
GGTCTTTTG	AATACGATCA	TATTGATGGT	TGAAATAGAA	TTGCTGGAAT	0400
CCACAAATAC	CAAACATATGG	CCATTGAAGC	TGACCTTGGG	GGTGGCAGCT	0450
TGGTTTATCT	TGCTTATTTT	CATCCTGGAG	ATCCTTCTTA	AGTGGCTATC	0500

BEST AVAILABLE COPY

CAACTTTCT	GTTTCTGGA	AGAGTGCCTG	GAATGTCTT	GACTTTGTTG	0550
TTACCATGTT	GTCCCTGCTT	CCCGAGGTTG	TGGTATTGGT	AGGGGTAACA	0600
GGCCAATCGG	TGTGGCTTCA	GCTTCTGAGG	ATCTGCCGGG	TGCTGAGGTC	0650
TCTCAAACTC	CTTGCAAAAT	TCCGTCAAAT	TCAAATTATT	ATTTTGGTCC	0700
TGGTCAGGGC	CCTCAAGAGC	ATGACCTTCC	TCTTGATGTT	GCTGCTCATC	0750
TTCTTCTACA	TTTTGCTGT	GACTGGTGTG	TAQGTCTTCT	CAGAGTACAC	0800
CCGTTCACCT	CGTCAGGACC	TGGAGTACCA	TGTGTTCTTC	TCGGACCTCC	0850
CGAATTCCCT	GGTAACAGTG	TTCATTCTCT	TCACCTTGGA	TCATTGGTAT	0900
GCAC TGCTTC	AGGACGTCTG	GAAGGTGCT	GAAGTCAGTC	GCATCTTCAG	0950
CAGCATCTAT	TTCATCCTT	GGTTGTTGCT	TGGCTCCATT	ATCTTCGAA	1000
GTATCATAGT	AGCCATGATG	GTTACTAAT	TTCAGAATAT	CAGGAAAGAG	1050
CTGAATGAGG	AGATGGCGCG	TCGGGAGGTT	CAGCTCAAAG	CTGACATGTT	1100
CAAGCGGCAG	ATCATCCAGA	GGAGAAAAAA	CATGTCACAT	GAAGCACTGA	1150
CGTCAAGCCA	TAGCAAATA	GAGGACAGGT	CGTTGGACT	GGGAGACTCT	1200
TGTGCACGAA	AATCTGCCCG	GGCTAATGGA	AATGGATCAG	GATGA	1245

SEQ ID NO: 4 (human CatSper2 protein sequence - variant C1)

MAAYQQEEQM	QLPRADAIRS	RLIDTFSLIE	HLQQLSQAVP	RHTIRELLDP	0050
SRQKKLVLGD	QHQLVRFSIK	PQRIEQISHA	QRLLSRLHVR	CSQRPPLSLW	0100
AGWVLECPFLF	KNFIIFLVFL	NTIILMVEIE	LLESTNTKLW	PLKLTLLEVAA	0150
WFILLIFILE	ILLKWLNSNFS	VFWKSAWNVF	DFVVTMLSSL	PEVVVLVGVT	0200
GQSVWLQLLR	ICRVLRSLKL	LAQFRQIQII	ILVLVRALKS	MTFLLMLLLI	0250
FFYIFAVTGV	YVFSEYTRSP	RQDLEYHFFF	SDLPNSLVTV	FILFTLDHWY	0300
ALLQDVWKVP	EVSRIFSSIY	FILWLLLGSI	IFRSIIIVAMM	VTNFQNIRKE	0350
LNEEMARREV	QLKADMFKRQ	IIQRRKNMSH	EALTSSHHSKI	EDRSFGLGDS	0400
CARKSARANG	NGSG				0414

SEQ ID NO: 5 (murine CatSper2 cDNA sequence)

ATGGCACAAAG	AACAAGGACA	TTTCCAGCTG	CTCAGAGCTG	ATGCTATCCG	0050
TTCAAAGCTC	ATTGACACTT	TCTCGCTCAT	AGAGCATTG	CAGGGCTTGA	0100
GCCAAGCCGT	ACCAAGGCAC	ACTCTCCGGG	AGATACTTGA	TCCCTGCTTAC	0150
CAGCAGAAAC	TCATGTCAGG	AGATCAGGAG	CAGCTAGTGC	GCTTCTCCAT	0200
AAAGCCTCGG	CGAATGGGGC	ACATCACACA	CTCGCGGCGG	TTGCTGAGCA	0250
GGCTTCGCGT	GCGGTGCAGT	CGAATGCCCC	CTCTTTCCCT	GTGGGCTGGA	0300
TGGGTCTTGT	ATAGTTCTGT	CTTCTCGAAA	TTCATCATCT	CCCTCATCTT	0350
TCTGAACACC	TTTGTGCTGA	TGGTTGAAAT	AGAATTGATG	GAATCCACAA	0400
ATACTGCTCT	GTGGCCAGTG	AAGCTGGCTT	TGGAGGTGGC	AGATTGGTTC	0450
ATCTTGCTTA	GCTTCATTGT	AGAGATACTT	CTAATGTGGT	TGGCCAGTTT	0500
TTCTCTCTTC	TGGAAGGATG	CCTGGAATGT	CTTGACTTT	TTTGTACCT	0550
TGTTGTCTCT	GCTTCCTGAG	TTAGTAGTGC	TGTTAGGAGT	CCCAGCACAC	0600
TCTGTGTGGC	TCCAGCTGCT	GAGGGCTCTG	CGGGTCTGA	GGTCTCTCAA	0650
ACTGTTTGCA	CGATTCCGTC	AAATTAACT	TATTCTTTG	GCTCTGGTCA	0700
GGGCCTTGAA	GAGCATGACG	TTCCCTTTGA	TGTTGCTGCT	TATCTCTTC	0750
TACATTTTG	CTGTGACTGG	TGTCTACTTC	TTCAGAGAAT	ATTCCCGATC	0800
AACTATCGAG	GGCCTGGAGT	ACAACATGTT	CTTCTCGGAC	CTACTAAATT	0850
CACTGGTGAC	AGTGTTCATC	CTCTTCACCT	TGGATCATTG	GTATGCAGTA	0900
CTTCAGAATA	TCTGGAAAGT	GCCAGAACATC	AGCCGTGTCT	TTAGCAGCAT	0950
CTATGTTATC	CTTGGTTGC	TGCTTGGCTC	CATAATCTTT	CGAAATATCA	1000
TAATAGCCAT	GATGGTTACT	AACTTTCAAGA	ATATCAGAAG	TGAGCTGAGT	1050
GAGGAGATGA	GCCACCTGGA	GGTCAGTAT	AAAGCTGACA	TGTTCAAGCA	1100
ACAGATTATC	CAGAGGAGAC	AGCACTCTGA	ATCACTAAGA	GGGACCAGTC	1150
TTGGAAAGGT	CTCCGAAGAC	ATAATAGAAA	CTTCTGATGC	TAGTGATGAT	1200
GATGACGATG	ACGACGATGA	TGACGACGAC	GATGATGATG	ATGATGATGA	1250
CAAAAGCGAT	GCTACTGAAA	GGCATGGCGA	GGAAAGCGAT	AGTGAGAATA	1300
GTGAGAGTGA	GAATAGCGAG	AGCGAGAAAA	TTGATCCTGA	GAAAGACTAT	1350
GCCAAGAAAA	GCTATCCTGA	GAAAAGCCAT	CCTGAGAAAA	GCTATCCTGA	1400

BEST AVAILABLE COPY

GAAAAGCCAT	CCTGAGAAAA	GCTATCCTGA	GAAAAGCCAT	C	TGAGAAAA	1450
GCTATGATGA	ACAGGCTGAA	GCTGAAAAG	AAAAAGAAGA	GTCAAAAGAA	1500	
AAAGCCTACC	CAGTTTCCA	TTCAATCTCG	TCCCATGGCT	CCATTGCAGC	1550	
CGATACTGCT	TTCTTGTAAA	ACCTGGACTG	GGAGACCCCTT	GTGCATGAGA	1600	
ACCTGCCTGG	GCTAAATGGAC	ATGGATCAGG	ATGACCCCAT	TGCTGGCCC	1650	
AGAGACTCAC	TCTTCCGATA	TTTCGAGTTA	CTGGAAAAGE	TTCAGTATAA	1700	
CCTAGAAGAG	CGCAAGAAGT	TACAAGAATT	TGCAGTCCAG	GCCCTGATGA	1750	
GTGGTGAAGA	CAAGTGA				1767	

SEQ ID NO: 6 (murine CatSper2 protein sequence)

MAQEQQHSQL	LRADAIRSKL	IDTFSLIEHL	QGLSQAVPRH	TLREILDPAY	0050
QQKLMMSGDQE	QLVRFSIKPR	RMGHITHSRR	LLSRLRVRC	RMPPLSLWAG	0100
WVLDSSVFSK	FIISLIFLNT	FVLMVEIELM	ESTNTALWPV	KLALEVADWF	0150
ILLSFIVEIL	LMWLASFSLF	WKDAWNVFDF	FVTLLSLLPE	LVVLLGVPAH	0200
SVWLQLLRVC	RVLRSLKLFA	RFRQIKVILL	ALVRALKSMT	FLLMLLLIFF	0250
YIFAVTGVYF	FREYSRSTIE	GLEYNMFFSD	LLNSLVTVFI	LFTLDHWYAV	0300
LQNIWKVPES	SRVFSSIYVI	LWLLLGSIIIF	RNIIIIAMMV	NFQNIRSELS	0350
EEMSHLEVQY	KADMFKQQII	QRQRQHSESRL	GTSLGKVSED	IIETSDASDD	0400
DDDDDDDDDD	DDDDDDDDKSD	ATESDGEESD	SENSESENSE	SEKIDPEKDY	0450
AKKSYPEKSH	PEKSYPEKSH	PEKSYPEKSH	PEKSYDEQAE	AEKVKEESKE	0500
KAYPVSHSIS	SHGSIAADTA	FLENLDWETL	VHENLPGLMD	MDQDDRIWWP	0550
RDSLFRYFEL	LEKLQYNLEE	RKKLQEFAVQ	ALMSFEDK		0588

BEST AVAILABLE COPY